Combined (Intermodal) Transport Market in Poland in 1993-2009[1]

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From the early 90s combined transportation (based on standardized transportation and transshipment technologies) hasn't exceeded 3,5%[2] of overall weight of loads transferred by railway in Poland. During the same period the share of that type of transport in overall railway transfers in European Union countries has made up from 10 to 20% and has a tendency to grow systematically. At the same time it should be emphasized that intermodal transportation in Poland has mainly resulted from the requirements of foreign contractors moving their freight in standardized unit loads. The scale of container transport is not large in the internal transport.

1. COMBINED TRANSPORT MARKET IN POLAND

Main participants of the combined/intermodal transport market in Poland are the following transport operators: SPEDCONT Spedycja Polska, POLZUG Intermodal Polska, POLCONT, TRADE TRANS, CARGOSPED, PROCONT as well as seaports including, first of all, Baltic Container Terminal in the port of Gdynia and DCT Container Terminal in Gdansk.

As far as international and national transport is concerned, PKP CARGO S.A. focuses on container, semi-trailer and swap body transport provided to the order of forwarding companies and combined transport operators, as well as on its own. In international and national transport intermodal transport units (ITU) are transported in the trainload service system (60% of overall intermodal transport) and distributed service system (40%).

The scale, structure and trends of rail intermodal transportation are shown in Table 1 and 2, as well as in Fig. 1, 2, 3, 4, 5, 6.

Having analyzed a 10-year period, one can state that the annual average growth of intermodal transportation in the Polish State Railways (PKP) network has been shaping at the level of about 10,8% with GDP growth rate of 4,8%. If GDP increases moderately at the predicted level of about 3,5%, then the level of average intermodal transportation increase is predicted to be about 8,5%.

[1] The paper is prepared on the basis of the following books: *Uwarunkowania rozwoju systemu transportowego w Polsce* pod red. Bogusława Liberadzkiego i Leszka Mindura. Instytut Technologii Eksploatacji – PIB. Warszawa-Radom 2007, rozdz. 10 (*Conditions of Transport System Development in Poland* edited by Bogusław Liberadzki and Leszek Mindur. Institute for Sustainable Technologies – National Research Institute. Warsaw-Radom 2007, chapter 10); *Transport Europa-Azja* pod red. Macieja Mindura. Instytut Technologii Eksploatacji – PIB. Warszawa-Radom 2009 (*Europe – Asia Transport*, edited by Maciej Mindur. Institute for Sustainable Technologies – National Research Institute. Warsaw-Radom 2009); Henryk Zielaśkiewicz. *Transport intermodalny na rynku usług przewozowych*. Wyższa Szkoła Cła i Logistyki w Warszawie (Henryk Zielaśkiewicz. *Intermodal Transport on the Shipping Services Market.* Warsaw Customs and Logistics College).

[2] H. Zielaśkiewicz: *Intermodal Transport…*, in the Author's opinion, intermodal transport makes up 20% of overall railway transport of goods.

Carriage of international character (in which import makes up 43%, export – 31,5%, transit – 21,5%) constitutes about 96% (of the weight) in the transportation structure.

Years 1993-2008 witnessed more than a sixfold increase in intermodal transportation volume in TEU (twenty-feet equivalent unit), from 94,9 thousand TEU in 1993 to 646 thousand TEU in 2008 (in 2009 there was a decrease to 382 thousand TEU). The loaded container transportation, which makes up 68,8% of overall transportation, dominates in the international carriage structure. Empty containers (71,7%), which are sent from terminals and are to be loaded with goods, dominate in the national carriage structure. Years 1993-2007 witnessed more than a fivefold increase in intermodal transportation volume in TEU (from 94,9 thousand TEU in 1993 to 500 thousand TEU in 2007) and more than a triple increase in cargo volume in intermodal transportation (from 771,6 thousand tonnes in 1993 to 4200 thousand tonnes in 2008)[3].

Table 1. PKP CARGO S. A. Intermodal Transportation Volume in 1994 – 2009

Year	Cargo transportation in thousand tonnes	Change until the previous year in%	Transportation in thousand TEU	Change until the previous year in%
1993	771,6	-	94,9	-
1994	1 180,60	53,0%	114,8	21,00
1995	1 361,70	15,3%	138,2	20,40
1996	1 654,80	21,5%	195,6	41,50
1997	2 125,10	28,4%	255,9	30,80
1998	2 401,90	13,0%	316,9	23,80
1999	1 751,20	-	257,3	-
2000	2 079,40	18,7%	272,9	6,10%
2001	1 968,60	-5,3%	224,6	-
2002	2 190,50	11,3%	254,5	13,30
2003	2 301,10	5,0%	304,8	19,80
2004	2 484,00	7,9%	293,8	-3,6%
2005	2 404,40	-3,2%	358	21,85
2006	3 020,80	25,6%	406	13,41
2007	3 700,0	22,48	500	23,15
2008	4 200,0	13,50	646	29,2%
2009	2704,31	-35,6	382	-40,87

Source: Henryk Zielaśkiewicz. Intermodal Transport on the Shipping Services Market, p. 90

Table 2. Share of Particular Kinds of Cargo Transportation in Intermodal Transport in Poland in 2003 – 2008

Year		Containers	Truck tractor with trailers	Semi-trailers and trailers	Swap bodies
2003	weight of the cargo	90,79%	0,74%	0,11%	8,36%
	transport performance	97,47%	0,66%	0,03%	1,83%
2004	weight of the cargo	94,32%	1,80%	0,10%	3,79%
	transport performance	96,97%	1,90%	0,04%	1,10%
2005	weight of the cargo	94,85%	0,44%	0,12%	4,59%
	transport performance	98,19%	0,46%	0,05%	1,30%
2006	weight of the cargo	97,26%	0,01%	0,01%	2,72%
	transport performance	98,78%	0,01%	0,01%	1,20%
2007	weight of the cargo	97,53%	0,00%	0,00%	2,47%
	transport performance	98,58%	0,00%	0,00%	1,42%
2008	weight of the cargo	97,82%	0,00%	0,00%	2,18%
	transport performance	98,67%	0,00-	0,00%	1,33% -

Source: Henryk Zielaśkiewicz. Intermodal Transport on the Shipping Services Market, p. 94

Containers were a prevailing kind of cargo transportation made by all the intermodal transport carriers. In 2008 they made up over 98,67% of overall weight conveyed by intermodal transport and 98,58% of transport performance. It meant an increase of share by 6,74 and 1,1% respectively, in comparison with 2003. On the other hand, there

[3] Zielaśkiewicz H.: *Transport intermodalny na rynku usług przewozowych*. Wyższa Szkoła Cła i Logistyki w Warszawie, s. 90 (Zielaśkiewicz H.: *Intermodal Transport on the Shipping Services Market***.** Warsaw Customs and Logistics College*,* p. 90*)*

was a lack of truck tractor and semi-trailer transportation. In 200 none of carriers made that kind of transportation. In 2008 PKP Cargo S.A. was the only company that transported swap bodies. It transported 3 453 items jointly, which equals 5045 TEU.[4]

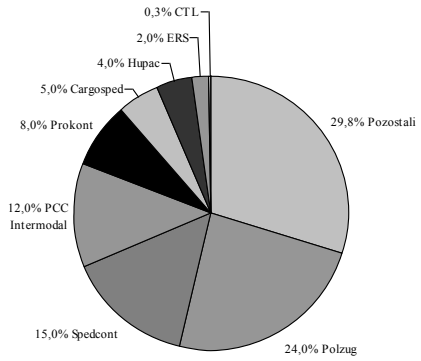

Fig. 1. Polish Operators Market Share

Source: Henryk Zielaśkiewicz. Intermodal Transport on the Shipping Services Market, p.

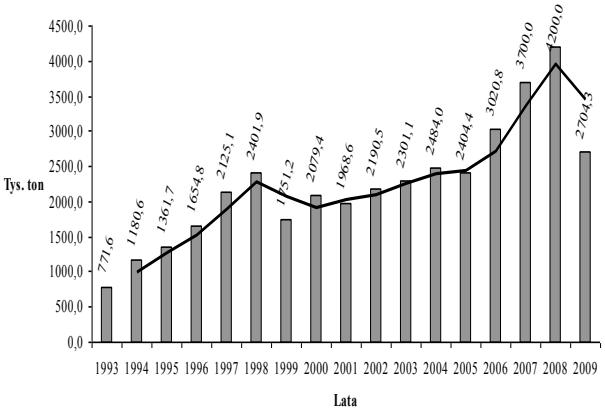

Fig. 2. PKP CARGO S.A. Intermodal Transport Volume and Trends (thousand tonnes)

Source: Henryk Zielaśkiewicz. Intermodal Transport on the Shipping Services Market, p. 91

Until 2005 PKP Cargo S.A. was the only railway carrier that dealt with intermodal transportation. PCC, which transported goods between container terminals of the Dutch company VGN in Świnoujście and a company terminal from its own group in Brzeg Dolny, was the first private company that started transportation in that cargo segment. VGN container terminal in Świnoujście was temporarily closed.

In 2007 six entities dealt with intermodal transportation; two of them belonged to PKP Group (PKP Cargo S.A. and PKP LHS Sp. z o.o.) and the other four were private companies: PCC Rail S.A. and PCC Kolchem Sp. z o.o. belonging to PCC Group, as well as CTL Rail Sp. z o.o. and CTL Reggio Sp. z o.o. belonging to CTLGroup. Nowadays PCC Company[5] transports goods between DCT Gdańsk terminal and Sławków, as well as for Ninhoff & Wasing Company using the terminal in Krzewie.

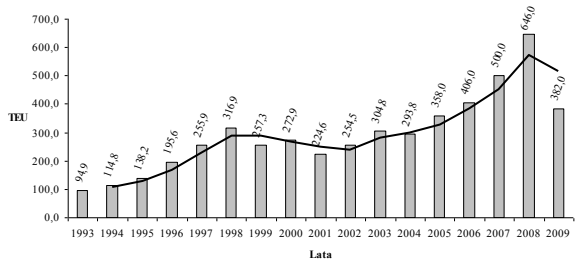

Fig. 3. PKP CARGO S.A. Intermodal Transport Volume and Trends (thousand TEU)

Source: Henryk Zielaśkiewicz. Intermodal Transport on the Shipping Services Market, p. 91

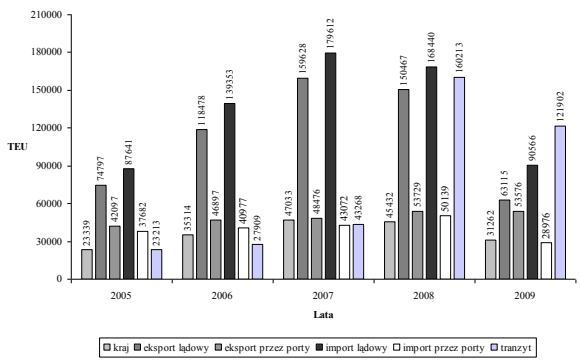

Fig. 4. 2005-2009 Intermodal Transport with Directions Considered

Source: Henryk Zielaśkiewicz. Intermodal Transport on the Shipping Services Market, p. 92

[4] Ibidem, p. 91

[5] Presently DB – Schenker

A state carrier PKP Cargo S.A., which in 2007 gained 90,56% of share in the transported cargo weight in that market segment and 91,01% in transport performance, had the largest share in intermodal transport. Remaining companies recorded results respectively: PKP LHS 1,18% and 1,18%, PCC Rail – 3,32% and 4,39%, PCC Kolchem – 4,58% and 2,99%, CTL Rail – 0,03% and 0,06% , CTL Reggio – 0,32% and 0,37%, which is illustrated on Figures 4 and 5. In comparison with 2006, cargo conveyed by intermodal transport increased by 19,4% according to the weight transported and by 20,4% according to transport performance[6].

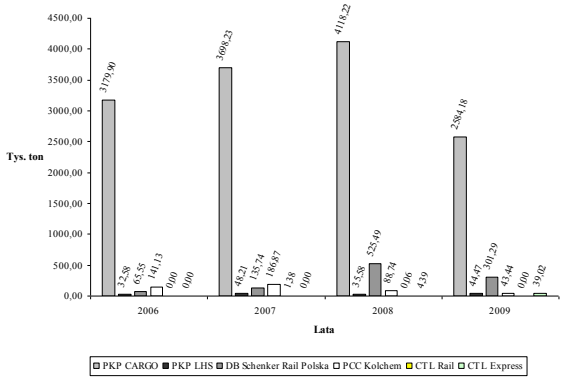

Fig. 5. Intermodal cargo transportation in 2006 – 2009, in thousand tonnes

Source: Henryk Zielaśkiewicz. Intermodal Transport on the Shipping Services Market, p. 93

4 772,5 thousand tonnes of cargo jointly was transported in 2009 (decrease by 34,35% in comparison with 2008) and transport performance equalled 2 214 136,2 thousand tonnes-kilometers (decrease by 36,9%). The number of containers transferred in 2009 made up 257 967 items, that is by 39,6% less than in 2008.

In 2009 there were 7 entities that dealt with intermodal transportation, among which two belonged to PKP Group (PKP Cargo S.A. and PKP LHS Sp. z o.o.), two belonged to CTL Group (CTL Logistics Sp. z o.o. and CTL Express Sp. z o.o.), two belonged to DB Group (DB Schenker Rail Polska S.A. and PCC Kolchem) and Lotos Kolej Company was the last one.

Nowadays that type of transportation makes up about 1,3% (according to the weight) and 3,2% (according to transport performance) of the overall cargo transport volume in Poland.[7]

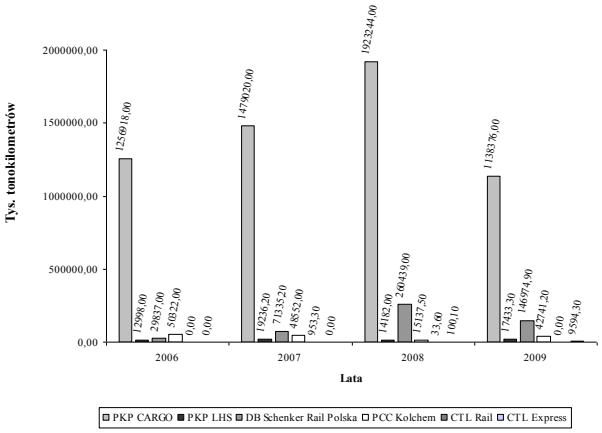

Fig. 6. Transport Performance in Intermodal Cargo Transportation in 2004 – 2007

Source: Henryk Zielaśkiewicz. Intermodal Transport on the Shipping Services Market, p. 93

The phenomenon of intermodal transport increase until 2008 should be assessed positively. Further investments in container terminals and logistic centers are necessary in order to keep an increasing transportation trend in that technology (especially in container transportation). The state must support this pro-ecological type of transport in order to ensure its further development.[8]

40' and 20' containers prevail in combined/intermodal rail transport. Overall container share makes up about 99% of intermodal units transported in international and national transport jointly in 2008. The number of containers that are being conveyed grows systematically, moreover, that growth concerns especially 40' containers. In the nearest future container transportation will constitute the largest share in intermodal transport structure, for PKP has a definite number of wagons used to transport that kind of units; moreover, works aiming at adapting flat wagons to platform containers are under way.

[6] Zielaśkiewicz H.: *Transport intermodalny na rynku usług przewozowych*. Wyższa Szkoła Cła i Logistyki w Warszawie, s. 92 (Zielaśkiewicz H.: *Intermodal Transport on the Shipping Services Market*. Warsaw Customs and Logistics College, p. 92 (not yet published))

[7] Ibidem, p. 93

[8] Ibidem

The existing network of container terminals (both railway and private ones) makes it possible to transport them rather efficiently both in international and in national transport.

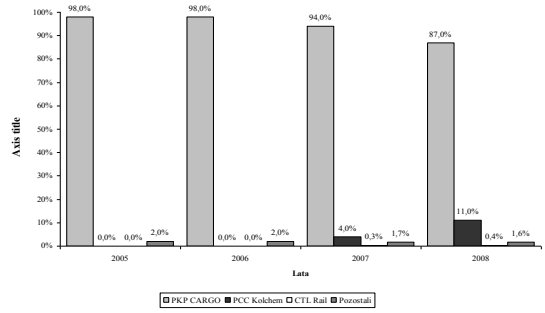

Fig. 7. Rail Carriers Percentage Share in TEU Transported in 2005 – 2008

Source: Henryk Zielaśkiewicz. Intermodal Transport on the Shipping Services Market, p. 94

There was more than a threefold decrease in the number of swap bodies that were conveyed in 2008 in comparison with previous years. Swap bodies' diversified sizes restrict significantly their transportation by container wagons. This technology will develop on condition that intermodal units are standardized and the possibility to exchange them is introduced.

Transfer of car semi-trailers is of marginal importance in intermodal transportation and one should not expect any significant increase in these units' share in overall transport in the nearest future.

2. COMBINED/INTERMODAL TRANSPORT OBJECTIVES AND DIRECTIONS OF DEVELOPMENT IN POLAND

The strategic objective of combined/intermodal transport development in Poland should focus on creating favourable technical, legal and organizational, economical and financial conditions for combined transport system dynamic development in order to bring its share in rail transport in 2020 to the average level of the European Union countries from 2000, that is 10-20% (calculated in tonnes).

Depending on how promotional tools are implemented and on national budget possibilities, two ways of carrying out the strategic objective, which deals with the development of this transport system in Poland, can be accepted.

- in an optimistic scenario combined transport share in overall rail transport should reach at least 10% in 2013 and 15% in 2020.
- in a realistic scenario combined transport target share in overall rail transport can be established at the level of 6% in 2013 and at the level of 10% in 2020, that is about 11,18 million tonnes.

Whereas primary purposes of combined transport development can be the following:

1. reducing transport social costs, first of all, external ones, in accordance with the sustainable development and sustainable movement principles accepted by EU as pan-European transport policy priorities;
2. keeping up combined transport upward trend and systematically increasing its share in overall PKP CARGO S.A. transport volume;
3. systematically improving the quality of services that are being provided.

Directions of combined/intermodal transport development in Poland should focus on:

- supporting Polish foreign trade traffic in overland and overland-sea connections,
- supporting transit transport moving through the territory of Poland in overland connections in the direction East–West–East and through Polish seaports in the direction North–South–North.

Intensification of combined/intermodal transportation through Polish seaports (both in Pollish foreign trade support and in transit support) is a key tool for short sea shipping development and integration with intermodal sea and overland transport chains. This direction of transport development is especially recommended and promoted by the European Commission.

One should aim for complete use of seaport favourable geographical position in the South – North Axis, in the system of the so-called Eastern European transport corridor. In order to achieve this goal, port services should be promoted and collaboration with Scandinavian countries and Eastern Germany, the Czech Republic, Slovakia, Austria and Italy should be strengthened.

Investments that have been recently made in Polish seaports and have been financed from own funds and loans from the World Bank will assure a high quality of services provided to support intermodal transportation in sea and overland transport chains.

Container turnover dynamic development in seaports, which has been taking place for the last three years, creates favourable conditions for the increase of railway share in container deliveries. For it's possible to launch railway connections (in which block trains are used) between regions with relatively large weight of loads suitable for containerization and seaports, as part of sea and overland intermodal transport chains.

3. STRATEGIC OBJECTIVE AND PRIMARY PURPOSES OF COMBINED/INTERMODAL TRANSPORT DEVELOPMENT IN POLAND – MAIN ACTIVITIES AIMED AT BARRIER ELIMINATION

As it was noted earlier, on the basis of research that was carried out one can state that there are both favourable external conditions and prospects of combined transport development in Poland. Moreover, prognostic estimation for international transport shows that there is a potential demand for services provided by intermodal transport technology which is willingly used in this type of transportation.

The use of this potential is dependent on the following activities:

1) eliminating barriers within the framework of national transport policy,
2) working out, adopting and implementing the programme of combined transport development.

Endeavors aimed at eliminating existing barriers and the so-called supporting (promotional) activity should be undertaken in order to achieve strategic objective and primary purposes in combined/intermodal transport development in Poland.

Main activities aimed at eliminating barriers are the following:

Barrier: relatively low railway service quality.

The ways of eliminating it:

- modernizing AGTC railway lines;
- cutting down the transit time of regular trains with intermodal units;
- keeping to train timetables;
- monitoring connections and providing current information on client consignments.

Barrier: lack of price competitiveness in relation to road transport

The means used to eliminate it:

- flexible price and discount PKP policy;
- budgetary grants for combined/intermodal transport operators;
- income tax allowances for companies making use of combined/intermodal transport;
- income tax allowances for terminal operators;
- vehicle tax exemption for car carriers employed to transport unit loads to/from terminals;
- means of curbing demand for long-distance goods transportation by car.

Whereas main supporting (promotional) activities are the following, among others:

- creating the Polish network of combined/intermodal transport connections supported by public means, as part of the first stage of modern logistic and transport infrastructure construction;
- building logistic centres and modernizing intermodal terminals located at seaports and in the AGTC railway network;
- harmonizing and standardizing intermodal unit loads;
- boosting intermodal transportation to/from Scandinavia;
- launching and developing regular container connections on the route East–West–East with the use of Trans-Siberian Railway.

At the same time, combined transport market participants must do their best to make their offer more attractive by:

- providing regular trains with intermodal units running in accordance with timetables and being competitive in time compared to automobile transport;
- cutting down the time of intermodal unit service at terminals;

- currently monitoring all the connections within the framework of information system;
- ensuring more effective marketing and promotion of combined transport services;
- permanently cooperating with local and regional authorities while shaping infrastructure related to intermodal terminals and logistic centre.

Fig. 8 Combined/Intermodal Transport

Source:http://www.spedycje.pl/images/artykuly/2010/Image/stycz10/tiry.jpg, preview date: 14.11.2010

EU countries, especially those that play the leading role on Europe's combined transport market, are a clear confirmation of the fact that it's very difficult to ensure combined/intermodal transport dynamic development without the help (especially financial one) of the state. These countries work on the assumption that this transport system should be promoted until the conditions of competition between road and rail transport are evened out, which is in accordance with the European Commission recommendations.

That's why, in the author's opinion, at least strategic connections in the combined transport system must be supported financially by the state until inter-branch competition conditions are evened out. That would be possible if transport external costs were empowered and the levels of payments for transport infrastructure use were harmonized; it would lead to stable connection network creation and intermodal transport cost reduction, and it would make the market adjust to this system.

As for economic tools contributing to combined transport development, the state financial aid focusing on AGTG modernization and property investments made in specialist means of transport and terminal infrastructure development plays the key role here.

One should consider premises resulting from the law on principles of regional development support when choosing the tools of combined transport support. It concerns especially investments made in linear and point infrastructure, which are mainly a regional policy element. It's essential to strengthen local government and regional authorities' efforts aimed at creating logistic centres with intermodal terminals and connections between road and rail infrastructure.

Other countries' experience and achievements in intermodal technology development show that a state must operate effective and consistent transport policy based on long-term programmes of combined/intermodal transport development.

Many transport experts were writing about the meaning and the role of transport development programme in Poland assigning the Ministry of Infrastructure the role of an initiator and of an organ supervising the programme implementation. This confirms a thesis stating that combined transport future in Poland depends on consistent implementation of a long-term programme of combined transport development, assuming that the state is totally committed to it.

Basic tasks of such a plan must be fulfilled simultaneously by the infrastructure domain and all the entities on the transport market. The role of Ministry of Infrastructure as of state organ should concentrate on:

1. introducing tools that promote intermodal transport development;
2. creating legal base for systemic and complex financial support of intermodal transport; in other words, the point is that favourable conditions for transport development must be created in Poland; and whether they will be made use of is dependent on entities involved in intermodal transport market.

That kind of activities would help to strengthen significantly the role of Ministry of Infrastructure in the planning process of strategic transport development, creating thus a chance of integrating different types of transport and developing intermodal transport as part of the Polish integrated transport system.

Speaking about the conditions under which the combined transport develops in Poland, one can't forget about potential risks of this development, that is:

1. **Internal risks** involve, first of all, the following situations:
   a. promotional efforts are delayed or not made; it concerns both promotional tools introduction and the fulfillment of basic programme tasks which would need state assistance in issues related to legal regulation system and financial support system;
   b. the quality of rail services provided in combined transport chains is further lowered, which results in client loss;
   c. there is a lack of cooperation between entities on combined transport market in Poland, which may toughen competition between Polish operators.
2. **External risks** mean, first of all, the danger that a part of the Polish transport market would be handed over to stronger, as far as the capital and organizational issues are concerned, EU operators (mainly from Germany) that enter the Polish transport market directly and indirectly. Open competition on the Polish transport market became a fact when Poland gained EU membership.

4. MAIN BARRIERS IN INTERMODAL TRANSPORT DEVELOPMENT IN POLAND

Road carriers, which also deal with long-distance transportation, especially in international traffic (in Polish foreign trade service and in transit), dominate on the transport market. Neither roads for motor vehicles, nor Poland's eastern road border crossings are adjusted to dynamically increasing road carriage, which results in traffic safety reduction, increasing road wear and tear, long periods of time vehicles spend waiting at the border, increase of negative effects and road transport external costs.

Freight rail transport decrease at the beginning of 90s led to the appearance of rail transport capacity considerable reserves, which means the railway is very likely to take control of some part of road transport carriage in the combined transport system.

There are good prospectives for combined/intermodal transport development in Poland, as far as both national and international carriage is concerned; national transport policy as well as the interested entities' will and readiness to cooperate decide in large measure whether it will be a spontaneous development or organized and reasonably controlled one.

If the Polish transport system is to develop according to sustainable development and sustainable movement principles, then the existing barriers must be eliminated and complex means promoting combined/intermodal transport development in Poland must be introduced.

It should be stressed that the existing barriers and the lack of promoting means are the main cause of the low level of combined transportation whose share (as it was stated earlier) in overall railway transport made up just 1,5% in 2003 with an average 10-20% share in most European Union countries.

Main barriers curbing combined/intermodal transport development in Poland are the following[9]:

1. Railway line technical state (which doesn't comply with requirements laid out in the

[9] L. Mindur: Problemy rozwoju transportu w Polsce. W: System transportowy Polski – koordynacja, globalizacja, legislacja. Konferencja Naukowa TRANSLOG 2001. Szczecin 11-12.09.2001; (L.Mindur: Problems of Transport Development in Poland. In: Poland Transport System – Coordination, Globalisation and Legislation. TRANSLOG 2001 Scientific Conference. Szczecin 11-12.09.2001). L. Mindur: Przesłanki techniczno-ekonomiczne rozwoju transportu w Polsce. „Przegląd Komunikacyjny" nr 3/1998 (L.Mindur: Technical and Economical Conditions of Transport Development in Poland. Transport Review No. 3/1998); J. Wronka z zespołem: Program rozwoju transportu w Polsce do 2015 Temat OBE4-1260/2000. OBET P.P. Warszawa-Szczecin, luty 2001 (J.Wronka and others: Programme of Transport Development in Poland until 2015. Theme OBE4-1260/2000. OBET P.P. Warszawa-Szczecin, February 2001); J. Wronka: Transport intermodalny w aspekcie wymogów zrównoważonego rozwoju. Wydawnictwo Naukowe OBET P.P. Warszawa-Szczecin 2002 (J.Wronka: Intermodal Transport in the Aspect of Sustainable Development Requirements. OBET P.P. Scientific Publishing House. Warszawa-Szczecin 2002).

AGTG Agreement on important international combined transport lines and related installations).

2. Railway service low level, which is reflected, first of all in:
   - too long time of trip;
   - frequent carriage delays and delivery delays as a consequence of that;
   - lack of possibility to monitor transportation and to inform clients on their consignment location (tracking and tracing system);
   - too long time of train stopover at border stations and the lack of possibility to transfer some kinds of control, for example, a phytosanitary one, to terminals inside the country; current technical, phytosanitary and veterinary procedures at border stations make it difficult to transport some consignments in compact trains; the control lasts often longer than the train stopover at border crossover should be according to the timetable;
   - intermodal trains' suspension that was due to the fact that fixed (timetable) hours were too often not kept by PKP and other railways.

Railway service low quality in combined/intermodal transport system often results in the loss of a client (gained after long negotiations) who "moves" his cargo to road transport and the client's confidence in this transport system is lost.

3. Combined transport prices that are not commercially viable in comparison to road transport ones, which is due, first of all, to too high rail freight and prices for transshipment operations and road delivery; only high, that is at least 50%, discounts on rail freight, leads to relatively equal conditions of price competition between this kind of transport and the road transport though even then it doesn't involve all the lines and connections.
4. Lack of logistic centres, which results in cargo flow dispersion and makes it difficult to launch full train load connections in the combined/intermodal transport system.
5. Lack of homogeneous and complex information system in overland and sea-overland combined/intermodal transport chains.
6. Lack of complex and effective tools promoting combined/intermodal transport as part of national transport policy, especially, a lack of financial aid system solutions.
7. Lack of complex legal regulations on combined transport in Poland.
8. Low effectiveness of current promoting tools which neither limited barriers, nor led to intermodal transportation increase.
9. Combined transport unfavourable image in Poland. Combined transport is universally considered as a transport system that:
   - is not flexible enough from a technical perspective;
   - is too slow and unreliable as far as delivery time is concerned;
   - is too expensive;
   - is difficult to be assessed, which means clients have no complex and clear information on the existing and potential combined transport services and there aren't representative statistic data enabling a reliable comparison with other transport branches;
   - is not a real alternative to road transport.

5. INTERMODAL TRANSPORT IN POLAND IN 2013 – 2020

It was shown earlier that prospective programmes which are updated and consistently implemented according to the changing needs, as well as technical and ecological advance, are an essential condition for harmonious transport development. Lack of a homogeneous concept on transport development in Poland arises from the fact that programmes that are being worked out differ from each other, have been modified and their implementation has been restricted, often because of a lack of financial means.

Ensuring the necessary conditions for the achievement of the strategic objective and primary purposes of combined/intermodal transport development in Poland until 2020 must be the purpose of intermodal transport development programme worked out and implemented by the Ministry of Infrastructure. The programme must comprise of basic tasks, which will be considered promoting tools, in four areas: legal, organizational and administrative, economic and financial, technical and technological.

A. Legal area

1. Drawing up a project of The Law on Combined/Intermodal Transport which would regulate main issues concerning this transport system in Poland in a complex way and would give the Minister of Infrastructure and the Minister

of Finance statutory delegations to issue appropriate executive orders. Issues concerning combined transport don't seem to be easy to regulate in a complex way through further amendments of present transport laws.

2. Introducing a prohibition on the movement of vehicles and groups of vehicles with the maximum allowable total weight exceeding 12 tonnes at all weekends on the area of the whole country and exempting vehicles that deliver goods to/from intermodal terminals from that ban; keeping former prohibitory traffic signs.
3. Connecting the number of transit permissions given to road carriers (for example, Russian, Belorussian or Ukrainian) with the amount of intermodal transportation done by them. For example, if a road carrier uses combined transport through Poland's territory twice, he will receive one bonus permission to make a road transit through Poland's territory. In bilateral agreements one should limit the number of transit permits so that every additional permit would be really attractive.
4. Making available, owing to creating a legal basis, the resources of funds for environmental protection intended for combined transport development promotion.

B. Organizational and administrative area

1. Drawing up the so-called Operational Combined/Intermodal Transport Development Programme (for example, a five-year one) which would include, among other issues, the following:
   - a list of the most important and most urgent problems;
   - the way in which combined transport system could be improved, with current legal and financial conditions taken into account;
   - identification of priority development activities, as well as the plan how to implement them;
   - principles of collaboration with local government while forming the infrastructure of regional logistics centres and connecting them with road and rail infrastructure.
2. Setting up the Combined/Intermodal Transport Council at the Ministry of Infrastructure, which would comprise of ministerial representatives, operators, carriers, freight forwarders, seaports and experts. The Council would give its opinion on the subject legislation, initiate new connection projects, monitor financial aid, coordinate and monitor intermodal transport promotional undertakings, etc.
3. Initiating activities aimed at forming an independent organizational structure with a public status in order to plan the development, as well as to build and manage an intermodal terminal network.
4. Initiating activities aimed at forming "goods integrators" (that coordinate cargo transportation).
5. Tightening control of road vehicles on Poland's eastern border, focusing, first of all, on the weight and emission standards.
6. Improving combined transport image by launching a broad information campaign emphasizing especially its social advantages (environmental protection aspect); presenting intermodal transport as a healthy alternative to road transport; promoting intermodal transport development.

C. Economic and financial area

Ensuring a stable basis for combined transport financial support in Poland is the primary purpose of economic and financial tools. The most important tools are the following:

1. Working out a project of the Ordinance of the Council of Ministers on combined transport financial support. The Ordinance would be the implementation of the Law on conditions of acceptability and supervision of state aid granted to entrepreneurs. The Ordinance should comprise of detailed conditions, criteria and principles of state financial aid, as well as the aid amount, structure and allocation.
2. Providing budgetary grants to help cover the costs of launching new combined transport connections and expanding the existing ones. The grants would be calculated in such a way that the price offer would be competitive compared to car transport.
3. Exempting road carriers dealing exclusively with intermodal unit transportation from/to terminals from regular tolls.
4. Providing a vehicle tax exemption for car carriers delivering goods to/from terminals in the accompanied combined transport system and non-accompanied combined transport system (the driver moves together with the vehicle in the accompanied system while the driver goes separately in the non-accompanied system).

5. Ensuring system conditions for financing structural investments in seaports through an easy access to preferential credits and owing to state guarantees.
6. Introducing tax deductions for logistic centres and intermodal terminals in full or as far as the infrastructure related directly to intermodal transport is concerned.
7. Setting up a Combined Transport Fund in order to support this transport system development.

Fig. 8 Rail Container Transportation
Source:http://www.deluxeinnovations.com/frntimgs/actvimg/800/SwiftEdisonCA032804B.jpg, preview date 14.11.2010

D. Technical and technological area
1. Speeding up railway line modernization needed to achieve parameters and standards defined by the AGTC Agreement (especially in the issue of increasing a freight train speed up to 120 km/h).
2. Introducing complex information systems in overland and overland-sea chains.
3. Standardizing and harmonizing intermodal unit loads.
4. Developing innovative transshipment technologies at intermodal terminals.

6. SUMMARY

If the transport system in Poland is to develop in accordance with the sustainable development and sustainable movement principles, then complex tools must be introduced in order to promote combined transport development in Poland.

It's appropriate and legitimate to create complex and consistent packages comprising of organizational, legal and administrative, as well as financial and economic tools that would promote combined/intermodal transport development.

It should be emphasized that combined transport promotion benefits the society in a notable macroscale way. Shifting a part of international road transportation on to combined/intermodal transport may reduce significantly road transport external consequences which impact negatively on the environment and people's health and life. Net advantages, that is the ones estimated after considering the lost budget influence quantity, which are due to transport external costs reduction achieved by transferring 1 million tonnes from road transport to railway-road intermodal transport (in 1000-kilometer distance carriage), can reach 69 million PLN.

Transport system strategic connections must be supported financially by the state before transport external costs have been made fully internal. State financial aid would have to cover, first of all, the difference between the costs and influences in the initial operational stage when new strategic connections are introduced on the basis of projects presented by transport operators and accepted as far as the possibility to grant the aid is concerned.

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